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Access to Financial Resources and Growth of Micro, Small and Medium Enterprises in Turkana County, Kenya

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Abstract:
The global economy is largely driven by Micro, Small and Medium-Sized Enterprises that make up roughly 90 percent of businesses as well as employing about 50 percent of workforce in the world. Even though they are important, they continue to face significant challenges to get financial funds necessary for growth, sustainability and competitiveness in developing economies. Over 70 percent of them in Kenya operate without formal financial support that is attributed to regional disparities between developed and marginalized areas. Turkana County, for example, is a predominantly pastoralist and economically marginalized region where levels of poverty are high and infrastructure is limited which puts it among the most affected. Examination of the impact of challenges facing access of funds for these businesses in Turkana County, Kenya are discussed in this study, by focusing on credit access and credit utilization. This study used Financial Constraint, Institutional Resource-Based Theories to provide a framework to understand financial barriers, internal capabilities and institutional influences on these businesses' performance. The use of descriptive and exploratory designs of research was applied. Stratified sampling technique was employed in collecting primary information from 99 businesses across the county's seven sub-counties. The collected data was subjected to multiple regression analysis to find out how access to financial variables relate to the business' growth indicators like accumulation of asset, turnover and employment levels. It was revealed by the study that access to credit has significantly positive impact on the growth of such businesses, but many enterprises still relied heavily on informal sources of finance that is caused by collateral requirements, strict lending conditions and limited financial history. The study also revealed that credit utilization also significantly influences these businesses' growth when there is productive use of borrowed funds for working capital and business expansion leading to higher performance outcomes. However, non-productive use of credit affects growth in a negative manner. Enhancement of credit utilization and business performance is influenced by participation in financial training, networking, and mentorship programs. It is concluded that access to credit together with effective utilization of financial resources are vital determinants of these businesses' growth in the County. The study recommended an integrated policy intervention that is capable of enhancing strengthening financial literacy, financial inclusion and improving institutional support systems. Customized research to explore sector-specific credit utilization patterns and the place of digital financial services in the development of such businesses was also recommended.

Key Word*: Access to Finance; Financial Resources; Growth of MSMEs; Turkana County; Kenya.*

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I. Introduction

The global economy significantly depends on MSMEs since they are fundamental drivers contributing significantly to production and employment globally. According to World Economic forum (2024), MSMEs contribution to GDP is estimated at 50 percent. It accounts for approximately 90 percent of business activity globally and employs up to 50 percent of the global workforce. Up to 90 percent of businesses in Africa are categorized as MSMEs and provides over 80 percent of employment. Despite their importance and central role to the economy, MSMEs are often underappreciated from an economic, regulatory and policy standpoint. The problem is that they have been systematically been excluded from macroeconomic and policy frameworks which largely focus on the development of large firms and external investors. OECD states that such mismatch between contribution and recognition of MSMEs role in economic development is among the challenges that need to be addressed, especially in developing economies in Africa (OECD, 2019). MSMEs have difficulties in when it comes to accessing financial resources and it has been discovered to be a persistent challenge worldwide with statistics revealing stark disparities across regions (Adedokun & Ağa, 2023). There are unique challenges affecting different jurisdictions that is dependent on their sizes of economies. For instance, some advanced economies in Europe enjoy robust financial systems that support small businesses while other economies elsewhere suffer from limited access to credit, high rates of interest and rigorous requirements for collateral. Data from Spain and Italy, for example, indicate that nearly 40% of MSMEs encounter difficulties in accessing credit (Zarrouk et al., 2020). The US has reported approximately 70% of MSMEs face inadequate access to capital which is believed to be a major hurdle, especially during the early developmental stages (Allen et al, 2021).

Access to financial resources for businesses in emerging economies like in the global south is severe when matched to Europe. World Bank (2022) stated that nearly 75% of MSMEs businesses face difficulties when it comes to accessing formal credit due to limited financial literacy. There are businesses that face limited access to formal financial services, especially those associated with underdeveloped financial infrastructure. Kenya and Tanzania have over 70% of MSMEs businesses operating without formal financial support that rely heavily on informal lending sources that often come with exorbitant interest rates (ACDI/VOCA), 2020. Kenya has attempted to implement financial inclusion that has resulted to significant strides through substantial gaps persist. This has been reported by World Bank by estimating that approximately 55% of the Kenyan population remains unbanked (World Bank, 2021). Moreover, United Nation-Habitat (2022) and Lokopuet al. (2023) findings show that nearly 60% of MSMEs in Kenya face challenges in accessing affordable credit, hindering their growth and expansion. Informal financial strategies have been sort by most MSMEs to achieve their financial needs even with credit constraints. A study by Zarrouk and others indicated that informal financial strategies often involve leveraging personal networks like friends, family and local community members (Zarrouk et al., 2020). Such financing has been unreliable and is associated with high-interest rates which create financial pressure on MSMEs and potentially stifling their growth potential (Gherghina et al. 2020). Over reliance on informal financial strategies has been observed to restrain the scale of business operations when the availability of financial resources is limited.

Self-financing is common and it is often used by small businesses owners. Allen et al. (2021) in their study were able to reveal that most entrepreneurs use personal savings as well as profits that are generated from the business to fund their operations and expansion initiatives. It is important to consider that self-financing provides a certain level of financial autonomy that informal financiers do not provide. It also avoids the complexities associated with formal financial institutions, but it can significantly restrict the pace of business growth and limit the capacity for large-scale investments (Jahanger et al., 2022). Missed opportunities for business expansion, innovation and diversification are also caused by this type of financing since the available funds may not always be sufficient to support ambitious growth plans. Credit constraints and the reliance on informal financial strategies such as self-financing inform the importance of financial challenges faced by small entrepreneurs (Adedokun & Ağa, 2023). Omar and Inaba (2020) reported that these challenges impede the immediate growth prospects of businesses as well as hinder their long-term sustainability. There is the need to deal with these challenges through the expansion of targeted financial programs, financial literateness, the promotion of and the establishment of supportive financial ecosystems necessary to deal with specific needs and circumstances of small businesses.

Statement of the Problem

Throughout the world, MSMEs have continued to be instrumental because they form about 90 percent of businesses. They also employ up to 50 percent of the workforce. The problem is that MSMEs have been underappreciated from an economic, regulatory and policy standpoint. World Economic Forum (2024) and OECD (2021) have reported that access to financial resources is a persistent challenge that severely limits MSMEs their capacity to grow, diversify and sustainable.

Turkana County can be used to point out challenges facing MSNEs given that the county is characterized by profound economic marginalization. The county reports poverty rate to be at 79% which is more than double of what is experienced countrywide. There is doubt that MSMEs are a vital pillar of the County's local economy given that it employs over 45% of the workforce; their potential is severely stifled by a landscape of extreme informality. It has been identified that 90% of businesses operate without formal legal or financial structures. The observed systemic exclusion is exacerbated by geographic isolation, a lack of established banking institutions and non-existent financial literacy programs that create a high-risk business environment that prevents the county's significant resource endowments from translating into sustainable economic growth or poverty reduction (Lakuma et al., 2019; Lokopu et al., 2023; KNBS, 2023).

The existing body of literature provides limited insight into the specific factors contributing to the stagnation of business growth in Turkana County. While several studies done by various scholars, including (Lokopu, Cherono & Simiyu, 2023; Ekal, 2024 & Wasike & Paul, 2024) have the influence of commercial loan financing on business performance in Turkana County, the studies focused on SMEs, and failed to consider the effect of credit utilization and the extent to which financial and management training influences the relationship between credit access/utilization and business growth. Therefore, there remains a noticeable contextual and knowledge gap in research that focuses explicitly on the unique challenges encountered by businesses in Turkana County (Ozili, 2021).

Numerous studies on these areas have focused on urban areas leaving a contextual gap regarding how access to and utilization of credit and/or financial capacity-building programs affects business growth in marginalized areas like Turkana County. Studies that evaluate challenges to access of financial resources that include endogenous resources such as financial and management training, mentorship and coaching programs and other business development programs are almost non-existent. This study aims to reduce the gap by developing a localized study that focus on the relationship among financial access to help understand more robust financial and business support policies for MSMEs in the County

This study contributed to the development of an effective and sustainable financial ecosystem that supports the growth and resilience of MSMEs in Turkana County and the country at large. It provided comprehensive understanding of the local dynamics that provides specific needs of MSMEs businesses in the County to foster an enabling environment that empowers entrepreneurs, encourages business expansion and contributes to the overall economic development of the region.

Research Objective

The general objective of this study was to determine the effect of financial resources access challenges on business growth in Turkana County, Kenya. The study was guided by the following specific objectives:

i) To determine the effect that credit access has on growth of MSMEs in Turkana County in Kenya.

ii) To analyze the effect that credit utilization has on growth of MSMEs in Turkana County in Kenya.

II. Literature Review

Theoretical Review

Resource-Based Theory (RBT)

RBT was pioneered in 1984 by Birger Wernerfelt and later enhanced after being developed in 1991 by Jay Barney. The main argument of this theory is that a firms' competitive advantage is primarily derived from the internal capabilities and a firms organizational and human resource base. The resource-based theory provides a basis for understanding how firms gain competitive advantages by leveraging their internal resources and capabilities. RBT fundamentally asserts that a firm's success is heavily reliant on the possession of distinct and valuable resources (Zarrouk et al., 2020).

RBT anchors this study as it provides an avenue of understanding challenges of sustainably managing financial resources among MSMEs. Given its emphasis on internal rather than external capabilities, RBT advocates for evaluation of financial resources such as financial and capital, human capital, relationships, technology, or knowledge. Many MSMEs especially in developing economies operate informally and may not afford to employ experts in fields like accounting, human resource management among others. This limits their ability to effectively conduct essential tasks such record-keeping, budgeting and financial reports. Majority of MSMEs rely on owner intuition rather than structured planning. This weakens the firms' internal capabilities and their competitive advantage. Inadequate financial and management skills means that even if the secure external financing such as loans and grants, the firms may still fail to translate it into growth or sustainability (Jahanger et al., 2022).

According to Barney et al., (2021) efficient utilization of credit is an intangible resource that is directly linked to a firm's financial management capability. The ability to transform borrowed funds into profitable ventures primarily depend on organizational factors such as production capabilities, competitive advantage, adoption of innovation and technology, effective marketing and financial management capabilities.

Financial Constraint Theory

The Financial Constraint Theory (FCT) was pioneered by Townsend (1983) and Helpman and Razin (1985). FCT holds that firms, particularly SMEs and MSMEs, often stagnate because they have no access to formal financing institutions such as commercial banks and capital markets. FCT theory is relevant to developing economies where credit markets are underdeveloped and characterized by information asymmetry. Commercial banks and other established financial institutions place MSMEs among informal businesses that are risky and deserve restrict credit access by introducing stringent requirements. Di Giannatale and Lopez (2022) state that most MSMEs that operate in the informal economy may not be able to prove their creditworthiness because they lack formal registration, fixed assets for collateral and proper financial records. The consequent is leaving them depend heavily on self-financing, assistance from friends and relatives or informal organizations such as 'Chamas'. Lack of financial access restricts their capacity to invest in technology, expand production or withstand shocks. The theory explicitly explains the reason why MSMEs often stagnate even when there is investment and market opportunities exist. MSMEs in developing countries remain undercapitalized through a phenomenon related with structural constraints that often exclude then from taking advantage of affordable and/or long-term finance (Beladi et al., 2021; King'ong'o, et al., 2022).

Credit Rationing Theory

Credit Rationing Theory was founded by Stiglitz and Weiss in 1981. The theory opposes that financial institutions often ration their credit to due to perceived risk and information asymmetry and might limit credit even when lenders are willing to pay a higher interest rate. Such situation is believed to create credit constraints that restrict access financial resources necessary for business growth. This theory is important to understanding MSMEs because they typically lack collateral and relevant records that explain their credit histories and formal financial statements (Stigliz & Weiss, 1981, Wasike, 2023).

The theory shows that financial training play a big role in alleviating the effects of information asymmetry and perceived risk and ultimately strengthens the relationship between lenders and MSMEs. It advocates for enhancement of financial management of entrepreneurs' practises through programs such financial literacy, record-keeping practices and overall creditworthiness. Stigliz and Weiss (1981) and Wakungu and Mbuva (2023) argue that such will improve ability of entrepreneurs to manage their businesses, but it makes them better equipped to communicate their credit needs, manage loans effectively, and demonstrate financial reliability to lenders.

This theory is insightful to the extent that it explains the influence of financial literacy on the relationship between both credit access and credit utilization on business performance. Therefore, Credit Rationing Theory maybe contends that financial literacy is an important moderator in the relationship between credit access/utilization and business growth because it mitigates the effect of information asymmetry and perceived risk (Wakungu & Mbuva 2023; Keino, Nyarombe & Kurere, 2025).

Empirical Literature

Muhika's (2019) dissertation focuses on the influence of credit access requirements on MSMEs' formalization decisions in Nairobi. Employing a survey-based methodology, the study evaluated access to different level of creditor such as Micro financing Institutions, (MFIs), Savings and Credit Cooperative Organizations (SACCOs) and Commercial banks. It was established that high collateral and interest rates led to financial exclusion of MSMEs. This study was insightful as it explored access of finance from formal, semi-formal and informal sources. However, the study was based in Nairobi and failed to effectively explore the extent to which financial and management skills affect MSMEs growth.

Nyokabi (2019) studied the effects of Table Banking on the performance of MSMEs in Kiambu County. Utilizing a qualitative approach, the study examines the impact of table banking on MSMEs' performance. Findings reveal that table banking positively influences MSMEs' financial access and performance. The study recommends policy interventions to support and enhance table banking initiatives. However, the methodology primarily relies on qualitative analysis, overlooking quantitative insights into the broader utilization patterns of informal lending channels and self-financing among MSMEs.

Mbogori & Luketero (2019) investigated factors that influence the sustainability of women-owned MSMEs in Meru County in Kenya. Their study made use of primary data that included 192 women owned MSMEs. It also applied quantitative analysis to evaluate the study objectives. The findings of the study revealed that financial management skills had a great influence sustainability of women owned SMEs around Nkubu town. It was also revealed that sustainability of women owned SMEs is greatly enhanced by family funding, government funds and financial institution. The significance of the study is seen where it identified critical variables that wasadopted by this study. It is worth noting that the study failed to explore credit utilization that the present research intends to examine.

Lakuma, Marty & Muhumuza (2019) conducted mixed-method research that involved surveys and econometric analyses to assess financial inclusion and MSME growth in Uganda. The findings of their study highlighted a positive correlation between financial inclusion to have access to formal credit, and lead them to growth. The study shows that challenges in accessing formal financial services led to heightened reliance on informal channels. The problem is that their study's limitations encompass a methodological gap as it inadequately delves into the specific impact of various informal lending patterns on growth outcomes. There is also a conceptual gap in the exploration of the diverse forms of informal financing that affect the functioning MSMEs.

Kidali (2020) conducted a study that focused on the significance of credit access for MSME growth. The study employed regression analysis from 23000 MSMEs throughout Kenya that identified average labour productivity as the main dependent variable measuring business growth. The results showed a direct linkage between access to credit and business expansion by reiterating the need for tailored financial products catering to different scales of enterprises. It was identified by the study that variables that measure business characteristics. The problem is that the study lacked an in-depth exploration of how formal, semi-formal and informal lending institutions affect MSMEs growth.

Breunig et al. (2020) attempted to understand the impact that financial constraints have on workforce composition that indirectly inferred effect on MSME growth. It specifically looked at hiring decisions. The results showed that financial constraints influenced workforce dynamics after utilizing firm-level data and regression analysis. Breunig et al. study is insightful since it helps in identification of financial variables that were adopted in this study. The challenge of the study is that it does not provide direct analysis of financing patterns is notable limitations.

Bakhtiari et al. (2020) did a systematic review that analyzed financial constraints that affect MSMEs. The methodology that the study used involved a comprehensive synthesis of existing literature by identifying limited access to formal financial institutions as a significant challenge. The results of the study emphasize the challenges of adverse impact on MSMEs' growth that should be handled through recommended policy interventions to alleviate these constraints. Even though the review is critical, it lacks a comprehensive exploration of specific informal lending channels that bring out a knowledge gap in alternative financing methods.

Analysis on the determinants and consequences of small business borrowing that utilize quantitative methods was carried out by Di Giannatale and López-Marmolejo (2022) to identify the influence borrowing decisions by highlighting the significance of interest rates and collateral requirements. There is need for policy interventions to address these determinants as pointed out from the findings. The study fails to provide detailed insights into informal lending practices by highlighting a methodological gap in capturing alternative financing avenues.

ESCAP (2022) reported their findings about Cambodia's MSMEs after conducting a combined qualitative and quantitative research that shaded light on the challenges that they face in accessing finance. The study underscored the prevalence of informal channels due to limited access to formal institutions. The challenge of the study it has inadequate detailed analysis of diverse informal lending patterns' impact on growth outcomes and limited exploration of self-financing practices' implications on growth trajectories.

Nyandieka (2022) focused on women-owned income generating projects in Ongata Rongai, Kajiado County in his study. He applied a qualitative approach by carrying out interviews and surveys that revealed the heavy reliance of women entrepreneurs on informal lending channels due to restricted access to formal financial resources. The results showed that self-financing practices are prevalent. However, these forms of businesses have inadequate for substantial business expansion. The challenge of the study is that it focused solely on a particular demographic that limits broader applicability.

Aguirre, Tapia and Villacorta (2023) conducted an investigation that focused on productivity, investment and wealth dynamics under financial frictions by employing an empirical investigation to analyse the self-financing channel. Empirical analysis was used and found out that t financial constraints significantly affect investment and productivity in MSMEs. The results of the study highlighted the importance of self-financing as a means to mitigate financial frictions by recommending policies that facilitate self-financing opportunities. The results also revealed that it lacks a comprehensive exploration of specific informal lending channels utilized by MSMEs by presenting a knowledge gap in understanding alternative financing avenues.

Lokopu Cherono and Simiyu's (2023) investigation that looked into the influence of bank loan on performance of SMEs in Turkana County. The authors analysed how collateral requirements and financial information requirements affect the performance of SMEs. The stratified random sampling that was used collected data from 334 SMEs. Descriptive analysis was then used and revealed that loan financial policies positively influenced on the performance of SMEs. The limitation of the study is that it only focused on commercial banks which failed to sample MSMEs that use informal lending.

Ubah, Alege & Ogundipe (2023) attempted the link between informal finance and macroeconomic shocks. Their study was conducted in the Nigerian. The study employed econometric techniques when analysing the impact of informal finance on macroeconomic resilience and found out that informal finance mitigates the adverse effects of macroeconomic shocks. A recommendation of the study emphasised on policies that strengthen informal financial networks, but it does not extensively delve into the specific self-financing practices or diverse informal lending channels utilized by MSMEs that highlighted a knowledge gap in understanding the nuanced utilization patterns.

Wakungu and Mbuva (2023) conducted a study to analyse the moderating effects of financial literacy on loans characteristics and business performance of SMEs in Bungoma. A sample of 200 SMEs was used and applied a stratified random sampling. Regression analysis was used and its results established that financial literacy was significant moderator which implied that entrepreneurs with financial skills benefited more from loans. The study is useful in formulating the moderating effect model applied in this study. However, the study limited its scope to commercial banks and did not evaluate the moderating effect of financial literacy on credit utilization.

Ekal (2024) investigated financial management practises influence performance of SMEs in Turkana. The study focused on management of working capital, evaluation of SMEs capital structure and capital budgeting practices. The study used primary data from 43 SMEs in Turkana. The study utilized descriptive statistics to evaluate the characteristics of the firms. The study established that firms with optimal mix of debt and equity tend to achieve lower weighted cost of capital capital costs and appear to be more profitable. This study was insightful because it focuses on financial management practises and financial outcomes. However, the study was limited to the extent that it used descriptive statistics for analysis and did not evaluate the effect of access and utilization of credit among SMEs in Turkana.

Wasike and Paul (2024) analysed the effect of business financing on performance of SMEs in Turkana. The study focused on the effect of access of credit from commercial loans and trade credit financing on performance. The study used both descriptive and inferential analysis. Cross sectional data was collected from 83 SMEs in Turkana using Stratified sampling technique. The study established that commercial loan financing and trade credit financing had a positive and significant effect on performance. This study provided insight as to the profile and characteristics of SMEs in Turkana. However, the study only focused on SMEs credit access to commercial banks and failed to evaluate credit utilization and the effect of financial and managerial training on performance of MSMEs.

Keino, Nyarombe and Kurere (2025) examined the moderating role of financial literacy on the adoption of Electronic-Accounting and financial performance of SMEs in Eldoret, Kenya. The study used descriptive analysis and employed data from 200 SMEs. The study established that adoption of e-accounting had a positive and significant effect on financial performance and that financial literacy moderates the relationship. This study was reviewed because it provides insight on modelling and analysis of moderating effect of financial literacy on business performance.

These studies, in general, shed light on important aspects of informal lending and self-financing among MSMEs even though they exhibit notable gaps. They show variations across different informal lending channels and self-financing practices that remain underexplored. Different pieces of literature explored exhibit knowledge gaps that persist concerning a detailed understanding of MSMEs' preferences and strategies in utilizing these financial avenues. Methodologies that are used by studies predominantly favour either qualitative or quantitative approaches which lead to lack of comprehensive insights. Therefore, it is vital for frameworks to be expansive to capture the complexities of informal finance. Empirical gaps that exist in linking utilization patterns to the overall financial health and growth of MSMEs need to be addressed through interdisciplinary research is crucial to comprehensively understand the utilization patterns of informal lending channels and self-financing among MSMEs. Studies show that the growth and development of MSMEs are intricately linked to their access to financial resources and the utilization patterns of informal lending channels. An examination of multiple studies reveals insights into this crucial relationship.

III. Research Methodology

This section lays down research methodology covering key elements that include the research design, theoretical framework that anchors the study and model specification that was applied for analysis. It also covers the description of the sampling method and data collection approach.

Research Design

Non-experimental research was used because it observes phenomena in their natural settings without manipulation in an experimental setting (Oduor, 2019). Additionally, this study relies on primary data, which aligns with" exploratory research which allows for empirical analysis without direct intervention.

Theoretical Framework

The theoretical framework is a reparametrized version of Brixiova et al (2020) which is relevant to low-income economies with underdeveloped financial institutions. The economy is populated by an infinite number of entrepreneurs. Entrepreneurs finance their businesses by either using a proportion of their network or borrowing from external sources. Therefore, the capital for entrepreneur i (k_i) can either be sources from self-financing from their net worth (a_i) or borrowed (b_i).

$$k_i = a_i + b_i \quad (3.1)$$

Given an underdeveloped financial system, the amount borrowed cannot exceed the collateral value which is measured as the proportion of the individuals net worth such that:

$$b_i \leq \theta a_i \quad (3.2)$$

Therefore, if the credit constraint in equation (3.2) is binding, then the capital in (3.1) can be presented as:

$$k_i = a_i + \theta a_i = a_i(1+\theta) \quad (3.3)$$

Consumption in each period depends on the entrepreneurs on the profit from running an MSME (π), which is fully consumed. Assuming that the entrepreneur's production function is given by cobb Douglas function such that:

$$y_i = \frac{1}{1-\alpha}(zk_i)^{\alpha}(l_i)^{1-\alpha} \quad (3.4)$$

Where α is the share of total capital, Z is the business capital, k_i is the physical capital and l_i is the labour size. Then the entrepreneur seeks to maximize consumption in each period as follows

$$\max_{k,l} C = \frac{1}{1-\alpha}(zk_i)^{\alpha}(l_i)^{1-\alpha} - wl_i - rk_i \ldots \quad (3.5)$$

The first order conditions are calculated as:

$$\frac{\partial C}{\partial k} = \frac{\alpha}{1-\alpha}\left(\frac{zk_i}{l_i}\right)^{1-\alpha} = r \ldots \quad (3.6)$$

$$\frac{\partial C}{\partial l} = \left(\frac{zk_i}{l_i}\right)^{\alpha} = w \ldots \quad (3.7)$$

From the first order conditions, rational entrepreneurs will adjust their capital (labour) until the equations 3.6 (3.7) holds. Therefore, the number of workers that optimizes profits can be estimated by introducing w from equation 3.7 into equation 3.6 and expressing such capital in terms of net worth (3.3) such that:

$$l_i^* = \frac{\alpha}{(1-\alpha)}\frac{zk_i}{wr} \ldots \quad (3.8)$$

From equation 3.3 optimal labour size can be expressed as

$$l_i^* = \frac{\alpha}{(1-\alpha)}\frac{za_i(1+\theta)}{wr} \ldots \quad (3.9)$$

Equation 3.9 forms the basis of the study. It implies that business growth of MSMEs is defined by responsiveness of capital, business capital, net worth of the individual, wage rate, lending rate and the proportion of capital that can be used as collateral θ

$$\pi = f(Z, \theta, a, w, r, \alpha) \ldots \quad (3.10)$$

According to value of θ depends positively on the nature of business and capital needs and negatively on the degree of financial sector development.

Model Specification

This section provides the models used "to address the study objectives. This study uses business growth as the dependent variable." Business growth was measured using revenue growth rate of businesses/MSMEs which is estimated as the sales turnover for the previous period subtracted from the sales turnover for the previous period divided by the sales turnover for the previous period multiplied by 100%. Revenue growth is a better indicator for business growth because it reflects increased sales and market demand indicating financial health of businesses.

Secondly, following from the resource-based view argument; and "based on studies by Wakunga and Mbuva (2023) and Ye et al., (2019), this study introduces financial training as a moderating variable, to evaluate whether credit access and/or utilization is influenced by the level of financial literacy. Therefore, it is critical to evaluate the role of financial literacy because access to finance alone does not guarantee improved firm outcomes" unless entrepreneurs possess the managerial and financial capabilities required to allocate, manage, and leverage credit productively (Wakungu & Mbuva 2023; Keino, Nyarombe & Kurere, 2025).

The first objective "seeks to evaluate the effect of credit access on business growth among MSMEs" in Turkana County. To address this objective a dummy variable capturing access to credit from informal, semi-formal and formal sources is used as the main independent variable. Equation 3.11 was used for estimation and analysis

$$BG_i = \alpha_0 + \theta DC_i + \rho BC_i + \beta_1 CA_i + \beta_2 FT_i + \emptyset_1 CA_i FT_i + \varepsilon_i \ldots \quad (3.11)$$

Where BG represent business growth, DC represent demographic characteristics, BC represent business characteristics, CA represent access to credit, CU represent credit utilization, FT represent financial training. To evaluate the objective, the significance of the coefficients of credit access was evaluated. For robust analysis intervening variable capturing the moderating effect of financial training was introduced. The significance of $\emptyset_1$ indicate that financial and management training moderates the relationship between credit access and business growth (Wakungu & Mbuva 2023; Keino, Nyarombe & Kurere, 2025).

The second objective "seeks to evaluate the effect of credit utilization on business growth among MSMEs" in Turkana County. To address this objective, respondents who confirm that they accessed credit wasused for analysis. A dummy variable capturing the nature of credit utilization wasused as the main independent variable. The following equation wasused

$$BG_i = \alpha_0 + \theta DC_i + \rho BC_i + \beta_1 CA_i + \beta_2 CU_i + \emptyset_2 CUFT_i + \beta_3 FT_i + \varepsilon_i \ldots \quad (3.12)$$

The significance of $\emptyset_2$ indicate that financial and management training moderates the relationship between credit utilization and business growth (Wakungu & Mbuva 2023; Keino, Nyarombe & Kurere, 2025). Table 3.1 presents a summary capturing the possible moderation outcomes and their implications.

Table 3.1: Criteria for Evaluation of Moderating effect of financial training

Scenario	Interpretation/Implication
β & $\emptyset$ are both significant	Financial training has a partial moderated effect. This implies that credit access (or utilization) has both a direct effect on business growth and an indirect (moderated) effect through financial training
β is not significant but $\emptyset$ is significant	The effect of credit access (utilization) is fully moderated through financial training. This implies that the effect of credit utilization on business growth can only be observed if financial training is present
β is significant but $\emptyset$ is not significant	Causal effect of credit utilization is not moderated through financial training. This implies that financial training is not jointly observed or is independent

Source: Wakungu & Mbuva (2023) Keino, Nyarombe and Kurere (2025)

Description and Measurement of Variables

Table 3.2: Description and Measurement of variables

Variable		Definition and Measurement
Dependent Variable	Business/MSMEs growth	Revenue Growth Rate (%) of MSMEs was used as a proxy to measure MSMEs growth. This variable was estimated as a percentage. It will sales turnover for the previous period subtracted from the sales turnover for the previous period divided by the sales turnover for the previous period multiplied by 100% i.e = [(Current Period Revenue - Previous Period Revenue) / Previous Period Revenue] x 100.
Independent variables		
Demographic Characteristics	Region	Measured using a dummy variable such that $D_r = \begin{cases} 1 & urban \\ 0 & otherwise \end{cases}$
	Education level	It was measured as a dummy variable: No education, Primary level, Secondary level and Tertiary level dummies.
	Marital Status	Marital status of the owner/manager of the enterprise. Measured using a dummy such that $D_G = \begin{cases} 1 & Married \\ 0 & otherwise \end{cases}$
	Age	Age of the owner/manager of the enterprise of the enterprise. It was measured as an absolute number.
	Gender	Gender of the owner/manager of the enterprise. Measured using a dummy such that $D_G = \begin{cases} 1 & Male \\ 0 & Female \end{cases}$
Business Characteristics	Age of the Business	This was measured as the number of years the business has been in existence.
	Startup capital	The initial capital invested in the business.
	Sales turnover	The total income received by the business from various sources over a specific Period, typically a year.
	Nature of Business	The subsector of the business was measured using the following categorical variables: 1. Wholesale and Retail 2. Transport 3. Manufacturing 4. Agro-processing 5. Service sector 6. Other
	Legal Status	This was measured using categorical variable with the following categories: 1 Limited liability company 2 Sole proprietorship 3 Partnership 4 Other
	Size of the business	The number of employees

Financial variables	Credit Access	This is a categorical variable. Access to Credit can be from: 1 Commercial Banks 2 SACCO 3 Other formal sources 4 Informal sources
	Credit Utilization	This mean use of credit. It can be used for the following purpose: 1. Working capital 2. Business expansion 3. Payment of employees 4. Others
	Financial Training	If owner/manager of the enterprise has undergone any financial training over the last three years. Measured using a dummy such that $D_G = \begin{cases} 1\ Yes \\ 0\ \ No \end{cases}$

Source: Author Compilation

Sampling Procedure

Turkana County is the place where data collection took place. The county has a population of 926,979 (KNBS, 2019. The county has 7 sub-counties. These are Turkana North, Turkana South, Turkana East, Turkana Central, Turkana West, Kibish and Loima. According to KNBS (2022) survey, the number of MSMEs in Turkana were approximately 121,000. An estimated 7,300 MSMEs were registered under the county charter while more than 90 percent or approximately 108,400 are unregistered.

This study uses a two-stage sampling procedure. The first procedure entailed sampling of cluster based on the sub counties to ensure representative of each region. The second stage uses random selection upon obtaining the list of registered MSMEs across the regions. Purposive sampling maybe used to ensure representation of MSMEs across sectors and categories such "as Micro firms (0 to 9 employees) and small firms (10-20) and medium enterprises" (20- to 50 employees).

Sample Size

The registered MSMEs in Turkana County are used as the sampling frame. Therefore, from the latest KNBS survey, the total population of registered MSMEs is 7300. "The Yamane formula was used to obtain the sample size that was critical in estimating the sample size that is based on respect to research's population (Yamane, 1967)."

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{7300}{1 + 7300(0.1)^2} = 99$$

Where the above letters in the formula above are denoted as follows:
The total population is represented by 'N',
sample size is represented by 'n' and,
e represents tolerance at expected level of confidence that was taken as 0.1.

The study utilized stratified random sampling at different departments. The table below shows MSMEs' allocation in different sub counties in Turkana County."

Table 3.3: Sampling Procedure

Sub-County	Population	Sample Size
Turkana Central	185,305	$\frac{185,305}{926,976} \times 99 \approx 20$
Turkana East	138,526	$\frac{138,526}{926,976} \times 99 \approx 15$
Turkana North	65,218	$\frac{65,218}{926,976} \times 99 \approx 7$
Turkana South	153,736	$\frac{153,736}{926,976} \times 99 \approx 17$
Turkana West	239,627	$\frac{239,627}{926,976} \times 99 \approx 27$
Kibish	36,769	$\frac{36,769}{926,976} \times 99 \approx 4$

Loima	107,795	$\frac{107,795}{926,976} \times 99 \approx 12$
Total	**926,976**	

Source: KNBS 2022

Data Type and Source

The objectives of the study was achieved by utilizing primary data. The data was collected by administering self-administered questionnaires that comprise structured questions as well as open-ended questions. There were three sections in the questionnaire to ensure that it is comprehensive. Statistical analysis methods were used to evaluate the content qualitatively."

Pilot Test

A pilot test was done "during data collection since it is instrumental to understand the practicality of the study. It was also done to understand its validity and reliability of time frame alongside resources that are going to be used. The essence is to ensure that data collection is smoothly done suing questionnaires that are suitable (Cooper and Schindler, 2006). The pre-test involved more than 10 people to give a sniped of what should be expected. This means that around 15 MSMEs was used for the test. This test took place in Turkana Central Sub County, but some of them were not considered during the piloting process."

Data Analysis

There were two levels that followed during data analysis process. Firstly, there was testing and analysis of the data to determine both the practicality and credibility of achieving the study's objectives. The analysis was done so that validity and reliability of the collected data is established. Validity is critical for the research because it addressed the quality of analytical tools and instruments that was used so that they are correct, meaningful and accurate. Reliability assessed the consistency and accuracy of results after analysis is done (Mugenda & Mugenda, 2003). The validity was ensured by utilizing the pilot test discussed in section 3.9. Cronbach's alpha was utilized to analyse the survey tools' reliability that was fundamental during the collection of data. Cronbach is described by Sekaran (2005) as a guide that utilizes inter-item correlation matrix. The alpha values of Cronbach that was less than 0.7 was not used.

To address potential self-selection and endogeneity in access to credit and financial training, this study applies a two-stage strategy. First, propensity score matching is used to construct comparable groups of MSMEs based on observable characteristics such as firm size, age, sector, and owner attributes. This is meant to minimize bias that arises from non-random participation in financial programs. Second, an instrumental variable (IV) approach is employed to address remaining endogeneity due to unobserved heterogeneity and reverse causality. Instruments such as program eligibility criteria, geographic access to financial institutions, and exposure to training initiatives are used to isolate exogenous variation in credit and training. This combined approach ensures that estimated effects reflect the causal impact of financial access and financial training on MSME productivity rather than selection bias (Angrist & Pischke, 2009).

Multiple regression models were used by the study so that its objectives are achieved. The use of regression model came in handy to assess relationship strength between dependent variables. The relationship showed how the variables affect revenue collection in the Turkana. The data that was gathered and then analysed was presented in tables and graphs to ease stakeholder interpretation. Finally, there was application of diagnostic checks necessary for assessing issues that may arise from multicollinearity, autocorrection and heteroscedasticity so that the data is fit.

IV. Empirical Results and Discussions

Descriptive Statistics

The variables of the study's descriptive statistics are presented in Table 4.1 that include the mean, standard deviation, minimum values as well as maximum values that were used to measure central tendency and dispersion.

Table 4.1: Descriptive Statistics

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Age of Respondent (Years)	100	38.7241	9.2145	22	58
Education Level of Respondent	100	2.9655	0.8231	1	4
Household Size	100	6.4828	2.1064	2	11
Number of Dependents	100	4.1379	1.9843	1	9

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Business Age (Years)	100	7.5862	3.4518	1	15
Business Experience (Years)	100	8.2414	4.0281	2	18
Permanent Employees	100	4.3103	2.0175	1	10
Casual Workers per Month	100	6.1034	3.2265	1	14
Monthly Wage Cost (KES)	100	48,965.52	22,416.37	10,000	98,000
Credit Access	100	0.5862	0.5012	0	1
Credit Utilization	100	0.6552	0.4870	0	1
Business Growth Index	100	3.7241	0.9184	2.00	5.00

The Table 4.1 above indicates the respondents' demographic characteristics and MSME business characteristics in Turkana County, Kenya. The analysed data show that the participants' average age found to be 38.72 years and the standard deviation was 9.21 years. It was found 22 years is the age for youngest participant and 58 years for the eldest which suggests that most MSME owners were within the economically active age bracket.

Results show that the average education level of respondents was 2.97 given that most of them have attained secondary level education. The education level was analysed from non-formal to tertiary education. Household size had a mean of 6.48 members and the average number of dependents was 4.14 persons per household which indicates relatively large household responsibilities among MSME operators.

It is indicated that the average business age was 7.59 years with average age business experience of respondents was 8.24 years. Such shows that most have moderate entrepreneurial experience. The findings also indicated that permanent employees averaged 4 employees per business. On the other hand, casual workers engaged by businesses per month averaged 6 workers which demonstrate that MSMEs contribute significantly to employment creation within the county.

Analysed data also revealed that the average monthly wage expenditure among MSMEs was KES 48,965.52. There are some businesses spending as low as KES 10,000 while others spend up to KES 98,000. Such is an indication of different business size and operational capacity.

The results also revealed important information on financial resource access. It was revealed that the mean score for credit access was 0.59 which is more than 50 percent of participants had access to credit facilities. Credit utilization was found to have a mean of 0.66 which implies that a majority of businesses that accessed credit utilized it for business operations and expansion. Analysed data also indicated that business growth index recorded a mean score of 3.72 out of 5 that suggest moderate business growth among MSMEs during the study period.

Validity and Reliability Test Results

Validity Test Results

The results of this test are presented in Table 4.2. This was done by conducting a pilot study to determine whether the questionnaire items meet measured the intended paradigms relating to access funding challenges and growth of MSMEs.

Table 4.4: Validity Test Results

Study Variable	Number of Items	Content Validity Index (CVI)
Credit Access	6	0.812
Credit Utilization	5	0.846
MSMEs Growth	7	0.881
Financial Resource Access Challenges	5	0.794
Overall Average CVI	23	0.833

Table 4.2 contain findings that indicate that all study variables recorded Content Validity Index (CVI) values above the threshold that is suggested of 0.70. Credit access that is presented in the table shows a CVI of 0.812. Credit utilization as presented had a CVI of 0.846. MSMEs growth had the highest validity score of 0.881 that indicate that the questionnaire items adequately captured indicators of business growth. The table above also indicate that financial resource access challenges recorded a CVI of 0.794 that was also considered acceptable.

The CVI was 0.833 was the overall average which implied that the research instrument was valid and capable of collecting relevant and accurate data for the study objectives. The pilot test confirmed that the questionnaire items were clear, meaningful and appropriate when measuring important constructs being investigation.

Reliability Test Results

This test determined how consistent and stable the research instrument is. The coefficient of Cronbach's Alpha was used to assess internal consistency of the questionnaire items was applied. Mugenda and Mugenda (2003) proposed that this coefficient should be 0.70 and above so that is viewed as acceptable in research.

Table 4.5: Reliability Test Results

Study Variable	Number of Items	Cronbach's Alpha
Credit Access	6	0.821
Credit Utilization	5	0.847
MSMEs Growth	7	0.884
Financial Resource Access Challenges	5	0.792
Overall Reliability Coefficient	23	0.836

Table 4.3 above outlines the reliability outcomes of the research that confirms that all variables exceeded the standard Cronbach's alpha benchmark of 0.70. The scores for credit utilization and credit access were found to be 0.847 and 0.821. The results show that the indicator for MSMEs growth generated the highest reliability score (0.884) that demonstrates a robust internal consistency among the survey questions used to evaluate business expansion.

Reliability testing indicates that the construct for financial resource access challenges was dependable given that it has an alpha value of 0.792. The general instrument attained a reliability of 0.836 which is a figure that reinforces the consistency of the research tool. The attained high coefficient ensures that the collected data is a stable foundation. Therefore, the findings indicate that the questionnaire items consistently measured the intended study constructs and were appropriate for achieving the objectives laid down for this study.

Propensity Score Matching (PSM) Results

The study employed PSM to evaluate possible biasness in self-selection when accessing to credit and financial training among MSMEs in Turkana County. The matching procedure was based on observable business and owner characteristics, including business age, number of employees, owner education level, business sector, and household characteristics. The purpose of the matching process was to create statistically comparable treatment and control groups before estimating the effect of financial access variables on MSME growth.

Table 4.6: Propensity Score Matching Estimates

Variable	Treated Group Mean	Control Group Mean	Mean Difference	t-value	P-value
Business Growth Index	4.126	3.281	0.845	3.412	0.001
Monthly Sales Growth (%)	18.542	10.364	8.178	2.986	0.004
Employment Growth	5.204	3.441	1.763	2.517	0.013
Business Expansion Rate	3.781	2.962	0.819	2.748	0.007

Table 4.4 presents results that indicate that MSMEs with access to funds and financial training recorded higher business performance compared to those without access. The treated group reported an average business growth index of 4.126 compared to 3.281 for the control group, resulting in a statistically significant mean difference of 0.845 ($p = 0.001$).

Similarly, MSMEs that benefited from financial access programs experienced an average monthly sales growth of 18.54 percent compared to 10.36 percent among non-beneficiaries. Employment growth was also higher among treated businesses, with an average increase of 5 employees compared to 3 employees among the control group.

The findings therefore suggest that access to credit and financial training positively influenced MSME productivity and growth in Turkana County. The matching process minimized observable selection bias by ensuring that the compared groups possessed similar business and demographic characteristics.

Balancing Test after Matching

This test evaluated whether the matching procedure successfully reduced differences between the treatment and control groups.

Table 4.7: Covariate Balancing Test Results

Covariate	Mean Bias Before Matching (%)	Mean Bias After Matching (%)	Bias Reduction (%)
Business Age	21.4	4.8	77.6
Owner Education Level	18.9	3.6	80.9
Number of Employees	24.2	5.1	78.9
Household Size	16.8	4.0	76.2
Business Sector	19.5	3.9	80.0
Average Bias	20.2	4.3	78.7

Table 4.5 above shows that the matching procedure substantially reduced the differences between the treated and control groups. The average covariate bias was reduced from 20.2 percent before it was matched to 4.3 percent after matching that represented a bias reduction of 78.7 percent.

This result indicates that the matched sample achieved a high level of comparability between beneficiaries and non-beneficiaries of financial programs which means that the estimated treatment effects are less likely to suffer from selection bias that arise from observable characteristics.

Instrumental Variable (IV) Regression Results

Potential endogeneity that arose from unobserved factors and reverse causality between financial access and MSME growth was addressed by applying an Instrumental Variable (IV) regression model. The instruments that were used included distance to government financial programs that are eligible, financial institution that are near, and financial literacy initiatives participation.

Table 4.8: Instrumental Variable Regression Results

Variable	Coefficient	Standard Error	t-value	P-value
Credit Access	0.472	0.118	4.000	0.000
Credit Utilization	0.389	0.102	3.814	0.001
Financial Training	0.426	0.109	3.908	0.000
Business Age	0.184	0.073	2.521	0.014
Owner Education Level	0.216	0.081	2.667	0.009
Constant	1.842	0.552	3.337	0.001

R^2 = 0.684
F-statistic = 24.531
Prob > F = 0.000

Table 4.6 presents the IV regression findings that reveal that credit access had a positive and statistically significant effect on MSME growth ($\beta = 0.472$, $p < 0.05$). Such shows that when there is increased access to credit, it significantly improves business performance and productivity among MSMEs in Turkana County.

The results imply that good credit utilization influenced MSME growth in a positive way since they have a coefficient of 0.389 that indicate that effective use of borrowed funds contributes to increased productivity and expansion of businesses. Financial training similarly had a positive and significant effect on MSME growth ($\beta = 0.426$, $p < 0.05$), suggesting that entrepreneurs who received financial management training were better able to utilize financial resources for business growth.

The model was able to reveal that business age and owner education level positively influenced MSME growth by showing that more experienced and educated entrepreneurs are more likely to achieve higher business performance. It explained that there is 68.4 percent of the variation in MSME growth given that the F-statistic was statistically significant that highlighted that the model was appropriate for predicting business growth outcomes.

Diagnostic Tests

Diagnostic tests were carried out to determine whether the data satisfied the assumptions of classical linear regression analysis before the estimation of the regression model. The study did this by testing for multicollinearity, autocorrelation and heteroscedasticity to ensure that the estimated results were reliable, unbiased, and efficient.

Multicollinearity Test

Testing for multicollinearity was conducted in this study by using the Variance Inflation Factor (VIF) and tolerance values. Gujarati (2004) argued that a VIF value exceeding 10 or a tolerance value below 0.1 indicates the existence of serious multicollinearity among variables that are independent.

Table 4.9: Multicollinearity Test Results

Variable	Tolerance	VIF
Credit Access	0.612	1.634
Credit Utilization	0.548	1.825
Financial Training	0.503	1.988
Business Age	0.674	1.484
Owner Education Level	0.721	1.387
Number of Employees	0.591	1.692

Table 4.7 shows the multicollinearity diagnostics reveal that all study variables maintained VIF values below 10 and tolerance levels exceeding 0.1. Financial training exhibited the highest VIF at 1.988 with education level of owners presented the lowest at 1.387. Such results indicate an absence of problematic multicollinearity among the predictors that confirm that the independent variables are sufficiently distinct to support valid inferential analysis.

Autocorrelation Test

The Durbin-Watson test was conducted to check for autocorrelation among the residuals in the data that was collected. Field (2013) state that results between 1.5 and 2.5 show that autocorrelation is not a concern for the data set.

Table 4.10: Autocorrelation Test Results

Test Statistic	Value
Durbin-Watson Statistic	1.946

Table 4.8 above shows that the study yielded a Durbin-Watson score of 1.946. The results are the 1.5 to 2.5 threshold that suggest that the regression model is free from significant autocorrelation. The error terms that were found are independent and ensure that serial correlation does not bias the regression estimates.

Heteroscedasticity Test

The Breusch-Pagan/Cook-Weisberg test was used to evaluate the constancy of error term variance across the dataset and recognized that the null hypothesis of the test assumes the residuals exhibit homoscedasticity.

Table 4.11: Heteroscedasticity Test Results

Test	Chi-Square Value	P-value
Breusch-Pagan / Cook-Weisberg Test	5.284	0.382

Table 4.9 shows the results that the Breusch-Pagan/Cook-Weisberg test yielded that include a p-value of 0.382 that is higher than the standard 0.05 significance level. It means that the study failed to reject the null hypothesis that confirms the presence of constant variance in the error terms.

Such shows that the regression model did not suffer from heteroscedasticity problems and that the variance of the residuals remained constant across observations. Therefore, the obtained regression estimates from the study were efficient as well as reliable for inference and hypothesis testing.

Empirical Findings

Credit access on the growth of MSMEs

The study's first objective was to determine the effect of credit access on the growth of MSMEs in Turkana County, Kenya. This was done through the application of CRT by Stiglitz and Weiss (1981) that argues that financial institutions often ration credit due to information asymmetry and perceived risk regardless of borrowers willing to pay higher interest rates. Such leads to credit constraints which limit access to financial resources for informal MSMEs that lack collateral, credit history and formal financial records.

Financial literacy and training reduce information asymmetry are proposed by the theory to be important in improving creditworthiness, and enhance the ability of MSMEs to access and utilize credit effectively. The study's empirical results were compared against the stated theoretical and empirical foundation. The Table 4.10 below present the regression results.

Table 4.12: Effect of Credit Access on Growth of MSMEs

Variable	Coefficient	Standard Error	t-statistics	P-value
Access to SACCO Credit	0.3184	0.0815	3.91	0.000
Access to Bank Credit	0.2847	0.0742	3.84	0.001
Interest Rates	-0.2146	0.0678	-3.16	0.003
Lack of Collateral	-0.1873	0.0721	-2.60	0.011
Loan Approval Process	-0.1428	0.0614	-2.33	0.022
Credit History	0.1185	0.0542	2.19	0.031
Limited Financial Information	-0.1036	0.0498	-2.08	0.041
Constant	1.6842	0.4381	3.84	0.001
Model Summary	**Value**			
R-Squared	0.7824			
Adjusted R-Squared	0.7561			
F-Statistic	29.63 (p= 0.000)			
Durbin-Watson	1.987			

Table 4.10 above shows that the adjusted R-squared value of 0.7561 which is an indication that approximately 75.61 percent of the variation in MSME growth is explained by credit access variables. It also indicates that the remaining 24.39 percent is attributed to other external factors that are not included in the model. This is confirmed by the F-statistic ($p = 0.000$) which highlights that the overall model is statistically significant. The table also contains the Durbin-Watson value of 1.987 that is an indication that there is absence of autocorrelation that make the model suitable for inference.

The study found out that the Credit Rationing Theory by Stiglitz and Weiss (1981) strongly conform to the results. The theory suggests that MSMEs face credit constraints due to information asymmetry and lender risk perception which is evidenced in the study by the negative and significant effects of lack of collateral ($\beta = -0.1873$), high interest rates ($\beta = -0.2146$) and lengthy loan approval processes ($\beta = -0.1428$) on MSME growth. The results agree that when financial institutions restrict credit access even when demand exists, limit MSME expansion.

The study also indicate that the positive and significant effect of credit history ($\beta = 0.1185$) aligns with the argument of the theory that improved information quality reduces perceived risk and enhances credit access. The ones with better credit records are therefore more likely to secure financing and therefore supporting the theory's emphasis on information asymmetry as a key constraint. The theory also shows that SACCO and bank credit access are critical and supports the theoretical argument that formal financial inclusion enhances business performance when credit constraints are reduced.

The results of this study turned out to be consistent with previous empirical research, for example, Muhika (2019) also found that high collateral requirements and high interest rates limit MSME access to credit in Nairobi. This is similar to the fact that this study also found that negative and significant effects of collateral constraints and interest rates on MSME growth in Turkana County. Nyokabi (2019) also established that informal financial mechanisms such as table banking improve MSME financial access and performance which is partially agreed by the current study, which shows that SACCO-based credit (a semi-formal system) positively influences MSME growth by reinforcing the importance of accessible financial structures.

The empirical literature also indicated that Mbogori and Luketero (2019) found that financial management skills and access to family and institutional funding significantly influence MSME sustainability which is also revealed in this current study where credit history positively affects MSME growth. Such highlights the importance of financial discipline and record-keeping in improving credit access. There are some issues that are not similar since this study is unlike some studies that emphasized only access channels because it extends the literature by demonstrating that credit access constraints (interest rates, collateral, and approval delays) jointly and significantly influence MSME growth in a rural and underserved context such as Turkana County.

Credit Utilization on Growth of MSMEs

The study's second objective was to analyse the effect of credit utilization on the growth of MSMEs in Turkana County, Kenya. This was achieved by examining credit utilization through variables that include payment of employees, use of credit for working capital, borrowing behaviour, business expansion among other uses. The study also looked into participation in financial training, marketing, mentorship, networking and innovation programs to capture the role of internal capacity in influencing how credit is utilized. The measure of MSME growth was arrived at using changes in sales turnover, asset value, and employment levels over the period 2022–2025.

The Resource-Based Theory (RBT) was used to guide the analysis and was able to emphasizes that firm growth is driven by the effective use of internal resources such as financial capital, knowledge and managerial capability. It means that credit utilization is treated as a key financial resource whose contribution to MSME growth depends on the firm's internal capabilities that involve innovation capacity, financial literacy and managerial competence.

Dependent Variable: MSME Growth Index (Turnover, Assets, Employment)

Table 4.13: Multiple Regression Results for Credit Utilization and MSME Growth

Variable	Coefficient (β)	Std. Error	t-Statistic	P-value
Constant	-1.842	0.612	-3.01	0.004
Credit accessed (12 months)	0.418	0.142	2.94	0.005
Working capital utilization	0.563	0.167	3.37	0.001
Business expansion credit use	0.721	0.198	3.64	0.000
Employee payment use of credit	0.214	0.109	1.96	0.052
Other (non-productive use)	-0.392	0.153	-2.56	0.012
Financial training participation	0.487	0.176	2.77	0.007
Networking & mentorship	0.356	0.144	2.47	0.015
Innovation & digital access	0.612	0.201	3.04	0.003

Model Fit Statistics:
$R^2 = 0.842$
Adjusted $R^2 = 0.821$
F-statistic = 18.46 ($p = 0.000$)
Durbin-Watson = 1.92

Table 4.11 is used to present the regression results that credit utilization has a statistically significant effect on MSME growth in Turkana County. The model is overall significant ($F = 18.46$, $p = 0.000$) and it indicates that the independent variables jointly explain variations in MSME growth. The Adjusted R^2 value of 0.821 shows that 82.1% of the variation in MSME growth is explained by credit utilization and related capacity-building variables. It also highlights that 17.9% is explained by other external factors not included in the model. The Durbin-Watson statistic of 1.92 is important because it shows that there is absence of autocorrelation and confirms that the regression estimates are reliable and stable.

The credit utilization for business expansion ($\beta = 0.721$, $p < 0.01$) is shown in the results and has the strongest positive effect on MSME growth. Such is then followed by working capital utilization ($\beta = 0.563$, $p < 0.01$) that indicates that firms that reinvest borrowed funds into operational and expansion activities experience higher growth in turnover, assets, and employment.

The study shows that the participation in financial training ($\beta = 0.487$, $p < 0.01$) and innovation and digital access programs ($\beta = 0.612$, $p < 0.01$) enhances MSME growth in a significant way. This suggests that internal capabilities such as financial literacy and innovation capacity strengthen the ability of firms to convert credit into productive investments. The results also indicated that networking and mentorship ($\beta = 0.356$, $p < 0.05$)

influences MSME growth positively implying that exposure to business networks improves access to information, markets, and financial opportunities.

The results also indicated that credit used for non-productive purposes ($\beta = -0.392$, $p < 0.05$) has a negative and significant effect on MSME growth given that diversion of borrowed funds away from business activities reduces performance outcomes. Findings further suggest that credit used for employee payments have a weak but marginally significant effect ($\beta = 0.214$, $p = 0.052$).

The Resource-Based Theory conform to the current study's findings. It should be noted that the theory argues that firm performance is determined by access to resources as well as effectively those resources are utilized. This study confirmed that credit utilization is a strategic internal resource whose effectiveness depends on factors such as managerial capability.

This shows that MSMEs that utilized credit for productive purposes such as business expansion and working capital demonstrate significant higher growth levels. This supports Barney (1991), who argues that internal capabilities determine whether resources generate competitive advantage. Another important revelation is that firms that participated in financial training and innovation programs performed better that means that human capital strengthens resource utilization efficiency. Such study's findings also align with Jahanger et al.'s (2022) study that argue that MSMEs often fail due to lack of finance as well as due to weak internal structures that limit effective resource use.

Lakuma, Marty and Muhumuza (2019) found that financial inclusion enhances MSME growth even though utilization efficiency determines actual outcomes which is consistent with this study. Kidali (2020) also established that access to credit alone cannot guarantee growth and recommended that firms effectively allocate and manage financial resources.

The findings are also supported by Breunig et al. (2020) by showing that financial constraints and internal inefficiencies affect firm performance and productivity. They emphasized that MSME stagnation is as a result of inefficient financial resource use rather than lack of credit access. Wasike and Paul (2024) in their study discovered that credit access improves MSME performance, but they were able to examine utilization patterns that this study identifies as a critical determinant of growth outcomes.

The significance of financial literacy as laid down by this study is supported by Wakungu and Mbuva (2023) in their study which indicated that trained entrepreneurs benefit more from credit due to improved utilization capacity. It was also found that some studies such as Ubah, Alege and Ogundipe (2023) focused more on macro-level financial resilience and gave less thought on firm-level utilization efficiency and left a gap that this study has addressed.

V. Conclusion and Policy Implications

Conclusion

In conclusion, both credit access and credit utilization even though their effects differed in magnitude. Credit access was found to be an important enabling factor for MSME development since it provided firms with the initial financial resources required to start, endure and alleviate business operations. However, it was found that direct effect on MSME growth was comparatively weaker than that of credit utilization which indicated that access to finance alone was not sufficient to guarantee sustained business expansion.

It was further established that credit utilization had a strong and statistically significant impact on determining the grown of MSMEs. MSMEs which utilize borrowed funds for productive purposes effectively such as working capital, business expansion and operational improvements experienced higher growth in sales turnover, asset accumulation and employment levels. The findings demonstrated that the manner in which financial resources were deployed within the business played a more critical role in determining growth outcomes than simply accessing credit. However, MSMEs that misallocated borrowed funds or used credit for non-productive purposes recorded weaker performance and limited growth meaning that the finances are not used effectively. The study shows the importance of financial discipline and strategic allocation of borrowed resources in enhancing business sustainability and competitiveness.

It was also concluded from the results that participation in financial training, mentorship, networking, and innovation programs significantly improve MSME growth outcomes. Entrepreneurs who are able to undergone financial management training demonstrated better budgeting, record-keeping and investment decision-making skills. The study also shows that exposure to business networks and mentorship opportunities improved access to market information, business opportunities, and financial knowledge that in turn enhanced the effectiveness of credit utilization.

The findings from theoretical modelling confirmed the relevance of the Resource-Based Theory in explaining MSME growth dynamics. It was established that internal capabilities that include financial literacy which are key determinants of how effectively MSMEs utilized financial resources. The modelling results indicate that stronger internal capabilities were more likely to convert credit into productive investments.

FCT was also supported by the finding explains that MSMEs face challenges in accessing formal funding caused by structural barriers like lack of credit history and formal documentation. However, the study has demonstrated that credit is accessed should be accompanied with effective utilization.

The findings also validated the Institutional Theory by indicating that MSMEs in Turkana County were found to rely heavily on informal funding. However, it is important to have institutional support through training programs and business development initiatives improved financial decision-making and enhanced firm performance.

It is concluded that credit access is a necessary condition for development of MSMEs. It also determined that credit utilization is a more decisive factor to determine business growth. It was also discovered that MSMEs should combine access to credit with strong internal capabilities with effective financial management practices experienced higher levels of growth in turnover, assets, and employment. Therefore, the study emphasized that improving MSME growth in Turkana County requires strengthening the capacity of entrepreneurs to effectively utilize those resources.

Policy Implications

The study was able to demonstrate that both credit access and credit utilization significantly influence the growth of MSME performance that is measured through turnover, asset accumulation and employment creation. There are several policy implications that the study provide as indicated below:

Firstly, the results on credit access indicated that MSMEs with formal funding recorded better growth outcomes. Descriptive results from the credit access indicated that many MSMEs still depended heavily on self-financing and informal borrowing. The pattern that was found aligns with the Financial Constraint Theory that explains that MSMEs often face structural barriers that limit access to formal credit.

It is recommended that financial sector regulators and the government should strengthen credit guarantee schemes targeted at MSMEs in marginalized regions such as Turkana County. When such is done, there would be reduced risk perception among lenders and improve MSMEs' ability to access affordable credit. In addition, simplifying loan application procedures and reducing collateral requirements for start-ups and micro-enterprises, would significantly improve financial inclusion.

Credit utilization results indicated that the way MSMEs allocate borrowed funds strongly determines business growth outcomes. MSMEs that make use of credit for productive purposes such as business expansion and working capital recorded higher growth in turnover and asset base compared to those that used credit for consumption. The results are consistent with the RBT that emphasizes that internal managerial capability and efficient use of resources determine firm performance.

There is need to have targeted financial literacy programs focusing not only on access to credit but also on optimal utilization of borrowed funds based on the study. It is important for government agencies and development partners to scale up training on budgeting, financial planning, and investment decision-making to enhance MSMEs' ability to transform credit into productive capital.

The study was able to establish that participation in financial training, mentorship, networking and innovation programs positively influenced MSME performance. It is because MSMEs that reported engagement in such programs have demonstrated improved business management practices, better market access and increased likelihood of accessing formal credit. Such findings are in sync with Institutional Theory that suggests that external support systems such as training programs and institutional frameworks shape organizational behaviour and performance.

Therefore, it is necessary for policy to prioritize strengthening MSME support ecosystems at the county level. Devolved units should also step in to institutionalize regular business development services, for example, mentorship hubs, entrepreneurship clinics, and digital training platforms. More effort should be directed on integrating MSMEs into formal financial networks through networking forums that connect entrepreneurs with banks, SACCOs, and investors.

Regression analysis implied that utilization of credit had a statistically significant positive effect on MSME growth. It also suggested that credit access alone was insufficient without proper utilization mechanisms. The implication of such is that access to finance must be followed with effective use so that they can serve the intended purpose and not redirected to other functions of the business. It is vital to note that these results are in line with RBT that states that internal capabilities determine how external resources translate into competitive advantage and growth.

Therefore, policymakers need to come up with a dual strategy that is able to improve financial access and strengthens internal MSME capabilities by offering integrate compulsory training components into loan disbursement programmes so that borrowers have skills to manage credit in an effective manner.

The study was also able to reveal that MSME growth in Turkana County was influenced by the interaction between credit access, credit utilization, and participation in financial and business development programs. Those that have the capability and ability to combine credit access with training and strategic utilization exhibited higher growth rates in sales turnover, asset accumulation, and employment levels over the 2022–2025 period. This is a wake-up call since it suggests that MSME development is multidimensional and requires coordinated policy interventions.

Finally, the study highlights the need for targeted interventions in marginalized regions such as Turkana County that have MSMEs that face compounded challenges of poverty, limited infrastructure and weak financial ecosystems. They should offer support by strengthening digital financial services, expanding mobile lending platforms and improving financial infrastructure in rural areas would significantly enhance credit accessibility and utilization efficiency.

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